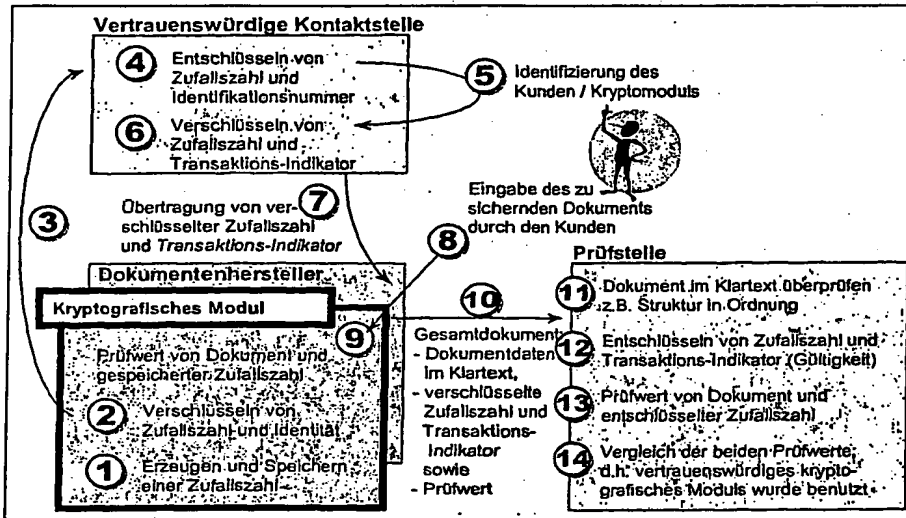


Figure 1



Document producer

Cryptographic module

- 1 Generating and storing a random number
- 2 Encrypting the random number and identity
- 3 ←

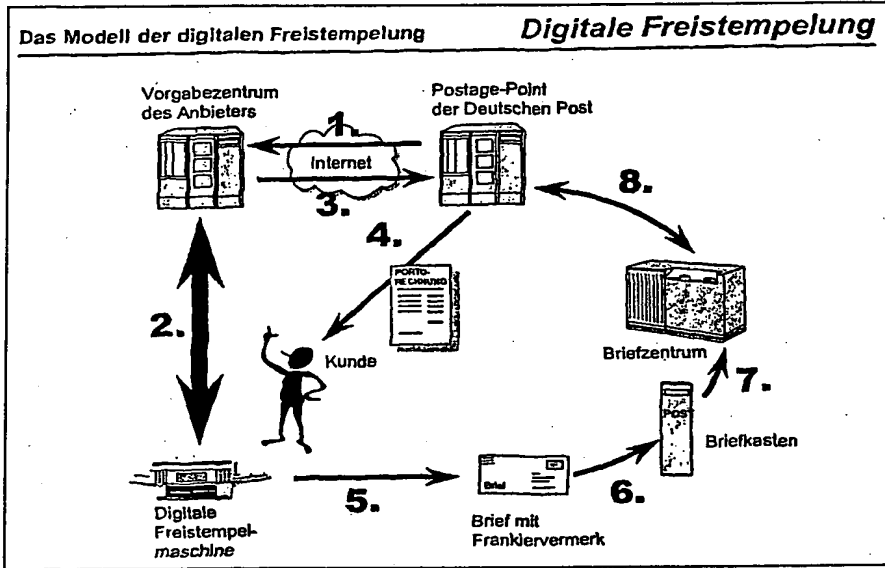
Reliable contact station

- 4 Decrypting the random number and the identification number
- 5 Identifying the customer / crypto-module
- 6 Encrypting the random number and the transaction indicator
- 7 Transmitting the encrypted random number and the transaction indicator
- 8 Entry by the customer of the document to be protected
- 9 Check value of the document and of the stored random number
- 10 Entire document:
 - document data in plain text
 - encrypted random number and transaction indicator as well as
 - check value

Checking station

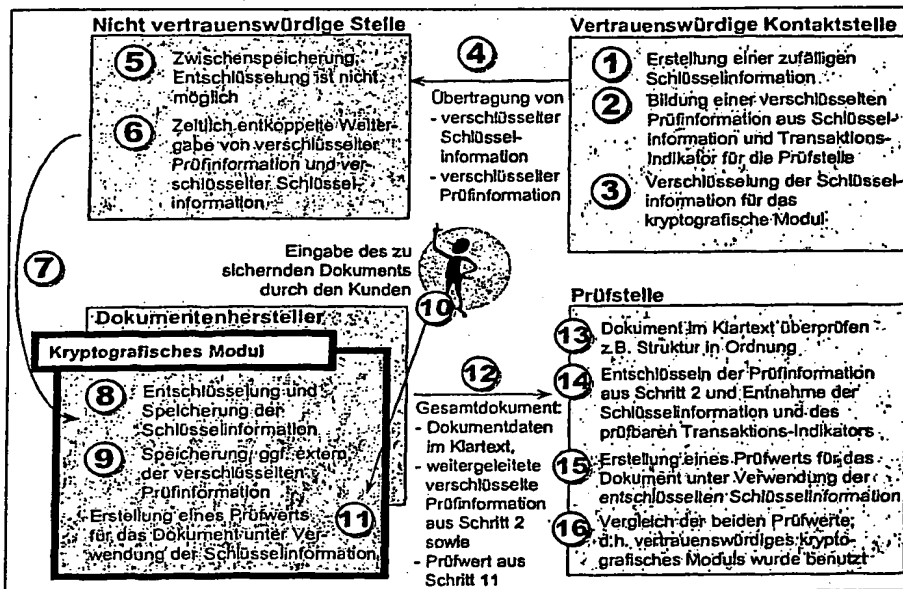
- 11 Checking document in plain text, e.g. structure correct
- 12 Decrypting the random number and the transaction indicator (validity)
- 13 Check value of the document and of the decrypted random number
- 14 Comparing the two check values; i.e. reliable cryptographic module was used

Figure 2



The model of digital franking		<i>Digitale Freistempelung</i>	
Specification center of the operator	1. ←	Postage Point of the Deutsche Post	
	Internet		8.
	3. →		↔
	4.	Postage invoice	Mail center ↗ 7.
2. ⇕	Customer		Mailbox
Digital franking machine	5. →	6. ↗	
		Letter with postage indicium	

Figure 3



Reliable contact station

- 1 Generating random key information
- 2 Forming encrypted checking information from key information and from the transaction indicator for the checking station
- 3 Encrypting the key information for the cryptographic module
- 4 Transmitting
 - encrypted key information
 - encrypted checking information

Non-reliable station

- 5 Intermediate storage, decryption is not possible
- 6 Forwarding encrypted checking information and encrypted key information at a different point in time
- 7 ↓

Document producer

Cryptographic module

- 8 Decrypting and storing the key information
- 9 Storing the encrypted checking information – optionally externally
- 10 Entry by the customer of the document to be protected
- 11 Forming a check value for the document using the key information
- 12 Entire document:
 - document data in plain text
 - forwarded encrypted checking information from Step 2 as well as
 - check value from Step 11

Checking station

- 13 Checking document in plain text, e.g. structure correct
- 14 Decrypting the checking information from Step 2 and removing the key information and the checkable transaction indicator
- 15 Forming a check value for the document using the decrypted key information
- 16 Comparing the two check values; i.e. a reliable cryptographic module was used